IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Neeraj Khurana et al.

Serial No. 10/723,234   Group Art Unit   2141

Filed: November 26, 2003   Examiner: Joseph D. Manoskey

Confirm. No. 9146

For: FAST SOFTWARE FAULT DETECTION AND NOTIFICATION TO BACKUP UNIT

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Pre-Appeal Brief
Arguments in Support of Pre-Appeal Brief Conference

The final rejection that is being appealed is a rejection under 35 U.S.C. 102(e) and the reference does not show (or even suggest) the elements recited in applicant's claims. Only applicant's independent claims 1, 2, 3, 12 and 21 will be discussed herein.

The examiner has <u>inferred</u>, from the functions performed by the reference, that the reference has the specific components recited in applicant's claims. The inferences made by the examiner relative to the reference are just plain wrong.

In the rejection the examiner <u>cites a function performed by the reference</u> and then, <u>interprets this function as showing the elements recited in applicant's claims.</u>

For example, with reference to claim 1, the examiner states:

> "After cutover has occurred the protection CMTS taking over for the working CMTS, <u>this is interpreted as the improvement</u> which includes a notification program that operates when the exception handler is activated, said notification program being adapted to send a control packet to the backup via said network interface unit without utilizing said operating system software" (underlining added).

With reference to claim 2, the examiner states:

> "Daruwalla also teaches at the time of the failure cutover being required the affected modem registering with the protection CMTS, <u>this is interpreted as a network router which includes</u> a plurality of CMTS card interconnected by a signal bus, one of said cards being a backup card, each of said card including an ASIC which interfaces said card to said signal bus, a notification program activated when said exception handler is activated, said notification program being adapted to send a signal to said backup unit via said ASIC to activate said backup unit" (underlining added).

The examiner's rejection is clearly based upon conjecture rather than on what is actually shown in the reference.

In the following paragraphs, applicant will show that <u>the reference specifically teaches away from the combination claimed by the applicant</u> and that the inferences made by the examiner concerning what the reference shows are just plain incorrect.

Applicant's invention relates to system and technique for activating a backup Cable Modem Termination System (CMTS) when a fault occurs in a primary CMTS system. As is conventional the primary CMTS includes a software operating system and an exception handler program that is activated when a fault occurs in the operating system software.

The present invention adds a notification program that operates independently from the CMTS unit's operating system. When the exception handler is activated as a result of a fault in the operating system software, the notification program which

operates independently from the operating system, is activated and this notification program sends a control packet to the backup CMTS unit through a network interface card to activate the backup unit. The notification program which operates independently from the CMTS operating system can send a control packet to the backup unit, to activate the backup unit, even though the operating system in the CMTS is in a fault condition and inoperable. In alternate embodiments, the primary and backup CMTS units are connected by a control or data bus.

The Daruwalla reference that was cited by the examiner shows a number of CMTS units that are interconnected by an IP network. Various topologies for the network are shown; however, all the topologies involve CMTS units interconnected by an IP network rather than by a hard wired bus. The Daruwalla reference is directed to pre-registering the backup CMTS, (referred to as the protection CMTS), in order to avoid delay when cutover occurs.

Applicant's claim 1 recites an "operating system", an "exception handler", and a "network interface card" and the claim then calls for:

> "......... the improvement which includes a notification program that operates when the exception handler is activated, said notification program being adapted to send a control packet to the backup unit via said network interface unit without utilizing said operating system software".

The Daruwalla reference cited by the examiner does not show a notification program that is activated when the exception program is activated and which sends a control packet to the backup unit <u>without utilizing the operating system software</u>. In fact at column 176, lines 60-62, the Daruwalla reference states that:

> "Preferably, the protective registration and cutover functions of this invention are implemented in software as part of the operating system".

In rejecting claim 1, the examiner merely states:

> "Daruwalla also teaches at the time of failure cutover being required the affecting modem registering with the protection CMTS. After cutover has occurred the protection CMTS taking over for the working CMTS".

The examiner then states that the above "**is interpreted as the improvement which includes**" and the examiner goes on to list the items recited in the applicant's claim. That is, the examiner <u>interpreters</u> the teaching of the functions recited above as showing:

> "a notification program that operates when the exception handler is activated, said notification program being adapted to send a control packet to the backup via said network interface unit without utilizing said operating system software" (underlining added).

There is no basis for the examiner's "interpretation" functions shown in the references as teaching the specific items recited in the applicant's claim. The examiner should show where the elements recited in the claim are shown in the reference. This can not be done because the reference does not show such items. Therefore the rejection should be reversed.

Applicant's claim 2 relates to an alternate embodiment of the invention. This alternative embodiment is illustrated in applicant's figure 2 and it includes CMTS units interconnected by a <u>signal bus</u>.
Claim 2 calls for:

> "a plurality of CMTS cards interconnected by a signal bus, one of said cards being a backup card, each of said cards including an ASIC which interfaces said card to said signal bus"

Claim 2 then goes on to recite:

> "a notification program activated when said exception handler is activated, said notification program being adapted to send a signal to said backup card via said ASIC on said backup card, to activate said backup card".

In Daruwalla, the various CMTS units that are shown are intercommoned by an IP protocol network. An IP protocol network is not a "signal bus" as recited in applicant's claim 2. That is, the Daruwalla reference does not show a plurality of CMTS cards <u>interconnected by a signal bus</u>. Furthermore, the Daruwalla reference does not show "an ASIC which interfaces said card to said signal bus" as recited in applicant's claim. Most important, Daruwalla does not show a notification program

that sends "a signal to said backup card via said ASIC on said backup card, to activate said backup card".

The rejection of claim 2 on Daruwalla should therefore be reversed.

Applicant's claim 3 relates to the alternate embodiment shown in applicant's Figure 4. The embodiment shown in Figure 4 includes a number of CMTS cards that are interconnected by a <u>data bus</u>. Claim 3 recites:

> "a plurality of CMTS cards each of which is connected to a data bus, one of said cards being a backup card, each of said cards including an ASIC which interfaces said card to said data bus"

Claim 3 goes on to recite:

> "a notification program activated when said exception handler is activated, said notification program being adapted to send a control packet to said backup unit via said ASIC, to activate said backup unit".

The examiner does not even try to show that Darwalla teaches a notification program that is activated when the exception handler is activated. The examiner merely "interprets" this from the general function performed by Darwalla. This in not appropriate and the rejection should be reversed.

Claim 12 is a "means plus function" claim and claim 21 is a method claim. The rejection of these claims follows the pattern described above. The examiner merely "interprets" what the reference shows. This is totally inappropriate and these rejections should be reversed for the same reason as explained above relative to the other claims.

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Respectfully submitted

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